

Comet 1888 a (Sawerthal)

was observed on 1888, April 10, 19, and May 3. The spectrum was almost wholly continuous, but on April 19 two very feeble bright bands were detected, nearly, if not quite, coincident with the bands in the green and yellow of the spectrum of the Bunsen flame. In the case of the band in the green a direct comparison was made between the two spectra, which left no doubt of their coincidence. The third carbon band—that in the blue—was not quite satisfactorily made out, but its presence was suspected as a slight local brightening of the continuous spectrum. On May 3 no trace of the yellow and blue bands could be detected in the spectrum of the comet, and the presence of the green band was only very faintly suspected. The spectrum of the comet was practically wholly continuous. It ended rather abruptly at or near D.

The spectrum of the tail was followed to a considerable distance from the nucleus, but it differed from that of the nucleus only in its greater faintness.

Comet 1888 e (Barnard 1888, September 2)

was observed on 1888, November 27. The spectrum was almost wholly continuous. By carefully narrowing the slit it became possible to see that there was a local, ill-defined brightening, corresponding nearly to the green carbon band, but apparently further towards the blue. On narrowing the slit further this brightening was lost, and only the continuous spectrum was seen. This was noted only for the nucleus and its immediate neighbourhood, the fainter outlying portions of the coma not being bright enough to give a perceptible spectrum with the slit as now narrowed. On the whole, the evidence for anything beyond a purely continuous spectrum was but small; the hydrocarbon spectrum was evidently quite an unimportant and subordinate feature.

A A

Note on the Spectrum of the Great Nebula in Orion.
By E. W. Maunder.

As I have recently been informed that an observation of mine of the brightest line in the spectrum of the Great Nebula in *Orion* has been somewhat misunderstood, it being supposed, as I am told, that I had claimed to have seen this line as distinctly a fluted band, I have thought it would be well if I explained it to the Society.

The observation in question was made on February 18, 1884, in the course of my usual work of the measurement of the displacement of the lines in stellar spectra. I was using the half-prism spectroscope in the direct position on the South-East equatorial of 12·8 inches aperture, and I had endeavoured, not very successfully, to measure the displacement of the bright F line in the spectrum of the nebula, using for the purpose a dispersion of one "half-prism." I then turned to the line of the nebular spectrum near λ 5005, and found this very much brighter than the F line. It had occurred to me, as this line in the nebular spectrum had sometimes been supposed to be due to nitrogen, the spectrum of which shows a very bright pair of lines at this place, that it would be well to ascertain if the nebular line could be divided, so I put in a second "half-prism," and examined the line at λ 5005 again. The dispersion now used was equivalent to that of sixteen flint prisms of 60°, or about 80° from A to H. The two nitrogen lines were widely separated, and though differing in wave-length only by three tenth-metres, their angular separation was 7', or more than two revolutions of the eyepiece micrometer (one hundred revolutions to the inch). The slit was very narrow, about 0''·5 of arc, or $\frac{1}{2000}$ inch, and the spectroscope had been very carefully focussed during the day on the same part of the solar spectrum, and with the same dispersion. With this dispersion and slit the three principal lines of the nebular spectrum, viz. F, λ 5005, and the bright line between them, were seen as very narrow bright lines. But none of the three nebular lines were perfectly sharp; each showed a slight raggedness at both edges; but in the case of the line near λ 5005 it was clear that this fringe or raggedness was more developed towards the blue than towards the red. In the original record of the observation published in the Greenwich Observations for 1884, my note reads as follows:—"None of the lines in the spectrum of the nebula are, however, very sharp. λ 5005 showed a faint fringe mainly on the side nearer the blue." In the case of the two other lines, they were not bright enough for it to be possible to ascertain whether the fringes were symmetrical or not.